Amendments to the Claims

This listing will replace all prior versions and listings of claims in the application:

Listing of Claims

1. (Currently amended) A process for the synthesis of cumene hydroperoxide, comprising the step of oxidizing cumene to cumene hydroperoxide in a liquid phase in the presence of an oxidizing agent and of a basic resin, said basic resin being a pyridinic resin, said basic resin not releasing inorganic cations to the reaction environment.

2. (Currently amended) A process according to claim 1, ~~where~~ wherein the oxidizing agent is oxygen in pure form or in a mixture with other gases, and is preferably air.

3. (Currently amended) A process according to claim 1, ~~where~~ wherein said cumene to cumene hydroperoxide oxidizing process is run under substantially anhydrous conditions.

4. (Cancelled)

5. (Cancelled)

6. (Currently amended) A process according to claim 1 ~~5~~, where said pyridinic resin is selected from the group reticulated poly-4-vinylpyridine (a polymer of 4-ethenylpyridine with diethenylbenzene, CAS RN 9017-40-7), a high-porosity reticulated poly-4-vinylpyridine, and a polymer of 4-ethenylpyridine with diethenylbenzene and ethenylethylbenzene quaternarized with

methyl chloride.

7. (Cancelled)

8. (Previously presented) A process according to claim 1, wherein said basic resin is used in quantities between 0.1 g and 60 g of basic resin for each kg of cumene, preferably between 10 and 25 g of basic resin for each kg of cumene.

9. (Original) A process according to claim 1, wherein said oxidation reaction is run at a temperature comprised between 60°C and 150°C up to the point when the conversion of the cumene to hydroperoxide is between 5% and 40%, preferably between 20% and 25%.

10. (Original) A process according to claim 9, wherein said oxidation reaction is run at temperatures comprised between 90°C and 115°C and for reaction times comprised between 30 minutes and 10 hours, preferably between 1 and 6 hours.

11. (Original) A process according to claim 1, wherein said oxidation reaction is run at relative pressures comprised in the range from 0.5 and 10 bar.

12. (Original) A process according to claim 1, wherein said oxidation reaction is run in two or more reactors in series, preferably in three reactors in series, operating at different temperatures decreasing from the first to the last reactor.

13. (Original) A process according to claim 12, wherein the reaction temperature in said first reactor is about 115°C and in

said last reactor is about 90°C, and where the remaining oxidation reactors operate at intermediate temperatures.

14. (Previously presented) A process according to claim 1, wherein said basic resin is contained in one or more baskets immersed in anyone of said oxidation reactor or reactors in such a manner that said basic resin is in contact with the reaction environment.

15. (Previously presented) A process according to claim 1, wherein said process comprises a concentrating phase of the reaction mixture exiting from said oxidizing phase for the purpose of separating unreacted cumene from the cumene hydroperoxide product.

16. (Previously presented) A process according to claim 15, wherein said concentrating phase is operated in a direct succession to said oxidizing phase.

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Previously presented) A process for the synthesis of phenol and acetone from cumene, comprising a step of synthesis of cumene hydroperoxide according to claim 1.

Amendments to the Claims

This listing will replace all prior versions and listings of claims in the application:

Listing of Claims

1. (Currently amended) A process for the synthesis of cumene hydroperoxide, comprising the step of oxidizing cumene to cumene hydroperoxide in a liquid phase in the presence of an oxidizing agent and of a basic resin, said basic resin being a pyridinic resin, said basic resin not releasing inorganic cations to the reaction environment.

2. (Currently amended) A process according to claim 1, ~~where~~ wherein the oxidizing agent is oxygen in pure form or in a mixture with other gases, and is preferably air.

3. (Currently amended) A process according to claim 1, ~~where~~ wherein said cumene to cumene hydroperoxide oxidizing process is run under substantially anhydrous conditions.

4. (Cancelled)

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6. (Currently amended) A process according to claim 1 ~~5~~, where said pyridinic resin is selected from the group reticulated poly-4-vinylpyridine (a polymer of 4-ethenylpyridine with diethenylbenzene, CAS RN 9017-40-7), a high-porosity reticulated poly-4-vinylpyridine, and a polymer of 4-ethenylpyridine with diethenylbenzene and ethenylethylbenzene quaternarized with

methyl chloride.

7. (Cancelled)

8. (Previously presented) A process according to claim 1, wherein said basic resin is used in quantities between 0.1 g and 60 g of basic resin for each kg of cumene, preferably between 10 and 25 g of basic resin for each kg of cumene.

9. (Original) A process according to claim 1, wherein said oxidation reaction is run at a temperature comprised between 60°C and 150°C up to the point when the conversion of the cumene to hydroperoxide is between 5% and 40%, preferably between 20% and 25%.

10. (Original) A process according to claim 9, wherein said oxidation reaction is run at temperatures comprised between 90°C and 115°C and for reaction times comprised between 30 minutes and 10 hours, preferably between 1 and 6 hours.

11. (Original) A process according to claim 1, wherein said oxidation reaction is run at relative pressures comprised in the range from 0.5 and 10 bar.

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13. (Original) A process according to claim 12, wherein the reaction temperature in said first reactor is about 115°C and in

said last reactor is about 90°C, and where the remaining oxidation reactors operate at intermediate temperatures.

14. (Previously presented) A process according to claim 1, wherein said basic resin is contained in one or more baskets immersed in anyone of said oxidation reactor or reactors in such a manner that said basic resin is in contact with the reaction environment.

15. (Previously presented) A process according to claim 1, wherein said process comprises a concentrating phase of the reaction mixture exiting from said oxidizing phase for the purpose of separating unreacted cumene from the cumene hydroperoxide product.

16. (Previously presented) A process according to claim 15, wherein said concentrating phase is operated in a direct succession to said oxidizing phase.

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Previously presented) A process for the synthesis of phenol and acetone from cumene, comprising a step of synthesis of cumene hydroperoxide according to claim 1.